

Application No.: 10/651,941

IN THE SPECIFICATION:

On page 5, please amend the paragraph (b) beginning on line 4 as follows:

b) If the steel pipe has a non-uniform wall thickness ratio E0 before expanding and satisfies the following expression ①, the lowering of the collapse strength of the expanded pipe is not serious.

$$E0 \leq 30/(1 + 0.018\alpha) \quad \dots \textcircled{1}$$

Wherein α is a pipe expansion ratio calculated by the following expression ②.

$$\alpha = ((\text{inner diameter of the pipe after expanding} - \text{inner diameter of the pipe before expanding}) / \text{inner diameter of the pipe before expanding}) \times 100 \quad \dots \textcircled{2}$$

E0 is a non-uniform thickness ratio of the pipe before expanding calculated by the following expression ③.

$$E0 = ((\text{maximum wall thickness of the pipe before expanding} - \text{minimum wall thickness of the pipe before expanding}) / \text{average wall thickness of the pipe before expanding}) \times 100 \quad \dots \textcircled{3}$$

The non-uniform wall thickness ratio E1 of the pipe after expanding is calculated by the following expression ④.

$$E1 = ((\text{maximum wall thickness of the pipe after expanding} - \text{minimum wall thickness of the pipe after expanding}) / \text{average wall thickness of the pipe after expanding}) \times 100 \quad \dots \textcircled{4}$$

Please amend the paragraph beginning on page 12, line 15 as follows:

As shown in FIG.8 (a), the above mentioned non-uniform wall thicknesses overlap on an actual cross-section of a steel pipe. In other words the actual non-uniform wall thickness of a steel pipe is a sum of the various orders of the non-uniform wall thicknesses, which are expressed by sine curves. Therefore, in order to find an amount of the k-th order of the non-uniform wall thickness of the pipe, thicknesses of cross-sections of the pipe are measured at constant intervals and the obtained wall thickness profiles is computed by Fourier-transform in accordance with the following expression ⑨. Here, the

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amount of the k-th order of the non-uniform wall thickness of the pipe is defined as a difference between the maximum non-uniform wall thickness in the k-th order of the non-uniform thickness component and the minimum non-uniform wall thickness in the k-th order of the non-uniform thickness component.

K-th order of the non-uniform wall thickness [[component]] G(k)

$$= 4\sqrt{R^2(k) + I^2(k)} \quad \dots \textcircled{9}$$

$$R(k) = \frac{1}{N} \sum_{i=1}^N \{WT(i) \cdot \cos(2\pi/N \cdot k \cdot (i-1))\}$$

$$I(k) = -\frac{1}{N} \sum_{i=1}^N \{WT(i) \cdot \sin(2\pi/N \cdot k \cdot (i-1))\}$$

Please amend table 2 on page 25 as follows:

Delete the "%" signs from the column headings "Expanding Ratio (α) %", "Non-uniform Wall Thickness Ratio before Expanding (E0) %", and "Non-uniform Wall Thickness Ratio after Expanding (E1) %".